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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/083,871	02/27/2002	Lawrence J. Almaleh	1609	4718
28004	7590	11/17/2004	EXAMINER	
SPRINT 6391 SPRINT PARKWAY KSOPHT0101-Z2100 OVERLAND PARK, KS 66251-2100			NGUYEN, THUAN T	
			ART UNIT	PAPER NUMBER
			2685	

DATE MAILED: 11/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/083,871	Applicant(s) ALMALEH ET AL.	
	Examiner THUAN T. NGUYEN	Art Unit 2685	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-57 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-57 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02/27/02 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 9-15, 20-22, 28-33, 39-41, and 47-52 are rejected under 35 U.S.C. 102(b) as being anticipated by Volt et al. (U.S. Patent No. 5,751,707).

Regarding claim 1, Volt discloses “a method of designing a first antenna system in a communication system, the method comprising: retrieving demographic information of customers from a first database system; determining communication traffic based on the demographic information; retrieving parameters of a second antenna system from a second database system; determining an antenna system configuration for the first antenna system based on the communication traffic and the parameters of the second antenna system; and determining a performance of the first antenna system in response to determining the antenna system configuration for the first antenna system”, i.e., Volt discloses a MMDS communication system of more than two antenna systems (Fig. 4, and col. 23/lines 5-21) that based on the demographic information or customer profile information collected from each antenna system (col. 10/line 62 to col. 11/line 24), the headend or control database system can configure the antenna configuration for the receiving stations or subscribers (Fig. 7) based on the traffic communication or

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population/density of the users/viewers/subscribers within the service areas (as shown in Figs. 5A & 5B, and col. 23/lines 5-67; and col. 11/line 15 to col. 12/line 60 as the headend system serves its normal network broadband functions and the wireless broadband network and it can determine the traffic flows based on the customer's need and services).

As for claim 2, in view of claim 1, Volt discloses "wherein the steps of determining the antenna system configuration for the first antenna system and determining the performance of the first antenna system are repeated until the first antenna system is optimized based on a maximum number of users, a geographic location, and government restrictions" (Figs. 2 & 3 for a routine loop to check until the antenna configuration is optimized based on geographic location and government restriction by Federal Communications Commission FCC licenses, see col. 22/line 55 to col. 23/line 38 based on regulations, and col. 24/lines 1-17 for FCC).

As for claim 3, in view of claim 1, Volt discloses further "comprising generating an antenna output based on the antenna system configuration and the performance of the first antenna system" (Figs. 5A & 5B, and col. 23/lines 20-50 for overlapping areas based on the antenna coverage for primary areas and secondary areas due to the antenna power or performance).

As for claim 9, in further view of claim 1, Volt inherently suggests "wherein determining the antenna system configuration for the first antenna system comprises: retrieving access road information from a third database system; retrieving topography information from a fourth database system; retrieving land usage information from a fifth

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database system; and retrieving image information from a sixth database system”, i.e., Fig. 6A of Volt shows broadcast headend with interactive headend comprises database 33, and the headend can comprise of more than one database for other information if needed or desired, for instance, a fifth database or a tenth database for any piece of information related to subscriber or system performance.

As for claims 10 and 11, in further view of claim 1, Volt discloses “wherein the first antenna system comprises a fixed wireless communication system” and “wherein the first antenna system comprises a Multichannel Multipoint Distribution System (MMDS)” (Figs. 4 & 7, and col. 23/lines 4-21 for MMDS).

As for claim 12, Volt discloses “wherein the second antenna system comprises a cellular antenna system” (Figs. 4 & 5A & 7).

As for claims 13-15, these claims for “wherein determining the antenna system configuration further comprises determining a location of the first antenna system”; “comprising generating a submission for government licenses for location, frequency, and power”; and “wherein determining the communication traffic further comprises calculating a weighted average throughput” are taught by Volt (col. 34/line 14 to col. 32/line 40 for antenna locations related to FCC license and the average output at receiving device).

Regarding claims 20-22 and 28-33, these claims for “a design system for designing a first antenna system, the design system comprising: a processor system configured to retrieve demographic information of customers from a first database system, determine communication traffic based on the demographic information, retrieve

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parameters of a second antenna system from a second database system, determine an antenna system configuration for the first antenna system based on the communication traffic and the parameters of the second antenna system, and determine a performance of the first antenna system in response to determining the antenna system configuration for the first antenna system; and an interface connected to the processor and configured to transfer the demographic information from the first database system to the processor and transfer the parameters of the second antenna system from the second database system” are rejected for the reasons given in the scope of claims 1-3, and 9-15 as discussed above.

Regarding claims 39-41 and 47-52, these claims for a software product for designing a first antenna system in a communication system as addressed are rejected for the reasons given in the scope of claims 1-3, and 9-15 as discussed above.

Claim Rejections - 35 USC 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4-8, 16-19, 23-27, 34-38, 42-46, and 53-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Volt et al. (U.S. Patent No. 5,751,707) in view of Hugenberg et al. (US Patent No. 5,924,039).

Regarding claims 4-8, 23-27, and 42-46, in view of claim 1, Volt does not further mention the steps of “wherein the demographic information comprises age and income of the customers”; “wherein the demographic information comprises an indication of whether the customer is residential or business”; “wherein the parameters comprise a location of the second antenna system”; “wherein the parameters comprise property rights of the second antenna system”; and “wherein the parameters comprise frequency and power of the second antenna system”; however, in a same environment of broadcasting services to the users in an MMDS system, Hugenberg teaches that the content delivery to the users based on a plurality of factors including demographic information, age and income to different groups of peoples, RF hardware, topography, licenses (for property rights) etc. whether residential or commercial groups of people for appropriately delivering of services (Hugenberg, col. 3/line 40 to col. 4/line 64).

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Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Volt's system with disclosed technique of Hugenberg in order to obtain an enhanced communication system that dynamically providing services to the users based on plenty of factors as addressed.

As for claims 16-19, 34-38, and 53-57, Hugenberg further teaches "wherein determining the communication traffic further comprises determining traffic weighting patterns based on penetration rates and data throughputs"; "wherein determining the performance of the first antenna system further comprising executing a radio frequency analysis based on the first antenna system"; "wherein determining the performance of the first antenna system further comprising executing a traffic simulation based on the first antenna system"; and "wherein determining the performance of the first antenna system further comprising executing an interference analysis based on the first antenna system" (see claims 4-8 above, more on col. 3/line 32 to col. 4/line 64 for the operator can determine the resources and allocates the traffic weighting patterns based on rates and data throughputs together with RF analysis and network interference evaluation for the antenna systems).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Arsenault (US Patent 6,310,661 B1), Leung et al. (US Patent 6,400,697 B1), and Blasing et al. (US Patent 6,052,582) disclose related MMDS communication systems.

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6. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to: (703) 872-9306, (for Technology Center 2600 only)

*Hand-delivered responses should be brought to Crystal Park II,
2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).*

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony Thuan Nguyen whose telephone number is (703) 308-5860. The examiner can normally be reached on Monday-Friday from 9:30 AM to 7:00 PM, with alternate Fridays off.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **Technology Center 2600 Customer Service Office** whose telephone number is **(703) 306-0377**.



TONY T. NGUYEN
PATENT EXAMINER

Tony T. Nguyen
Art Unit 2685
November 10, 2004